

REMARKS

Claims 1-24, 26-37, 39-41, 43, and 45-49 are now pending in the application. Claims 1-24 and 26-47 stand rejected. Claims 1, 9, 13, 19-20, 22, 31, 35, 37, 41, and 45 have been amended. Claims 38, 42, and 44 have been cancelled, while Claim 25 remains cancelled. Claims 48-49 have been added. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 101

Claims 20 and 22 stand rejected under 35 U.S.C. § 103(a) as being directed at non-statutory subject matter. Claims 20 and 22 have been amended to traverse this rejection.

REJECTION UNDER 35 U.S.C. § 112

Claims 32, 35, 37, 38, 43, 44, and 45 stand rejected under 35 U.S.C. § 112 as failing to comply with the written description requirement. This rejection is respectfully traversed.

Claims 38 and 44 have been cancelled, rendering rejections moot as to those claims.

Claims 35, 37, 43, and 45 have been amended to refer directly to the language of the specification (see paragraphs 22, 24, 27, and 29); i.e., "updating" an indicator. One example of an indicator disclosed in the specification is the header length field.

Applicants respectfully assert that the subject matter of Claim 32 is described in the specification. Specifically, paragraph 29 of the specification describes checking an indicator within the options field, as Claim 32 recites. Specifically, the specification describes an example indicator being the presence of a destination address: "if the data packet does include at least one destination address in the destination address option."

REJECTION UNDER 35 U.S.C. § 102

Claims 1-16, 19-24, 28-34, 36-37, 39-43, and 46-47 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Park, et al. (U.S. Publication. No. 2003/0031173, hereinafter "Park"). This rejection is respectfully traversed.

Regarding Claim 1, Park does not disclose "repeating the steps of receiving, extracting, and directly formatting at a second network routing device." Park only swaps addresses, which does not allow for more than one address to be stored in the options field. The invention described by Park will thus not function with more than one layer of private network translation. Claim 13 is in condition for allowance for at least similar reasons as Claim 1. In addition, Park does not disclose placing the router's address into the source address field of a packet. Instead, Park simply swaps the contents of the address field with the contents of a portion of the options field. Because of this, a sending device in Park needs to know beforehand what the router's address is, so it can be stored in the options field.

Regarding Claim 9, Park does not disclose having two destination IP addresses embedded in the options field, as Claim 9 recites. Because Park simply swaps one-for-

one, there is no ability or need for having two destination addresses stored in the options field.

Regarding Claim 19, Park does not disclose adding a source IP address to a stored IP address, as Claim 19 recites. Instead Park replaces the stored IP address with a different IP address.

Regarding Claim 20, Park does not disclose storing IP addresses both for an originating network device and intermediate routing devices. Instead, Park stores a single address that is swapped in and out. Similarly, regarding Claim 22, Park does not disclose storing IP addresses both for a destination network device and intermediate routing devices.

Regarding Claim 24, Park does not disclose a traversable network address residing in an options field of an IP packet header, as Claim 24 recites. Even if Park discloses a public interface IP address and a private interface IP address, they will never be concatenated together within the options field in Park. Instead, one will reside in the options field and one will reside in the address field (whether source or destination address), while Park swaps them back and forth.

Regarding Claim 31, Park does not disclose storing more than one destination address within the options field. In fact, the swapping methodology of Park would not function with more than one address stored in the options field.

Regarding Claim 41, Park does not disclose inserting a source address into the options field. Instead, Park replaces whatever source address is stored in the options field with a new value. Inserting allows for multiple source addresses to be stored, and multiple layers of translation to be navigated.

Regarding Claim 48, Park does not teach repeating receiving, storing, and replacing for multiple intermediate routing devices. Park's disclosure of a swap only accommodates a single intermediate routing device. Likewise, regarding Claim 49, Park does not disclose repeating receiving and replacing for multiple intermediate routing devices.

REJECTION UNDER 35 U.S.C. § 103

Claims 17-18, 26-27, 35, 38, and 44-45 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Park (U.S. Publication. No. 2003/0031173) in view of Frietsch (U.S. Publication No. 2004/0199627). This rejection is respectfully traversed.

Frietsch does not remedy the deficiencies of Park as to any of the independent claims, which are believed to be allowable in view of Park. Claims 2-8, 10-12, 14-18, 21, 23, 26-30, 32-37, 39-40, and 43-47 are in condition for allowance because they ultimately depend from independent Claims 1, 9, 13, 20, 22, 24, 31, and 41, which are believed to be allowable.

Further, specifically with regard to Claim 17, Frietsch is not applicable. The Examiner asserts that a tracking mechanism would improve the monitoring capabilities of Park. Even if this were true, Claim 17 does not recite a mechanism for tracking the public routers encountered by a packet, as described by Frietsch. Instead, Claim 17 recites storing the source address of a packet into a list within the options field of the packet, and replacing the source address of the packet with the address of the router.

Frietsch teaches a method of tracking the public addresses of routers that a packet encounters within the public internet. This creates a list of public addresses, while the source and destination addresses of the packet remains the same.

The present invention, however, provides a way that a stack of destination addresses can be stored in a packet (within the options field), which is then used to direct the packet from the public internet through layers of private networks to the ultimate destination. At each layer, the next destination address is popped from the stack and placed in the destination address field.

The present invention also allows for the formation of such a stack of addresses as a packet makes its way through layers of private networks to the public internet. This stack can then be used as a destination stack by a return packet. To create this stack, the source address field is pushed onto the stack as the packet arrives at each private network router, and the source address field is replaced with the address of the private network router.

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner

believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Applicants also respectfully request that the Examiner grant Applicants an interview prior to issuance of the next office action.

Respectfully submitted,

Dated: May 25, 2006

By: 

Timothy D. MacIntyre
Reg. No. 42,824

HARNESS, DICKEY & PIERCE, P.L.C.
P.O. Box 828
Bloomfield Hills, Michigan 48303
(248) 641-1600

TDM/MRN/cg